10/579286 IAP12 Rec'd PCT/PT 3 15 MAY 2006

WO 2005/057223

PCT/US2004/040547

SEQUENCE LISTING

						•											
<110>	A	NDRE	EV,	et a	1.												
<120>		ECEP		OR I	DENT	IFYI	NG M	ODUL	ATOR	S OF	' ACI	IVE	KIT	TYRC	SINE	KINAS	E.
<130>	3	0694	/396	18A													
<150> <151>		S 60	-	-	•												
<160>	6																
<170>	F	aten	tIn	vers	ion	3.2											
<210><211><212><213>	. 5	1084 NA Iomo	sapi	ens.													
<220><221><222>		DS (22).	. (29)52)													
<400> gatco			agct	accg	jc g	atg Met 1	aga Arg	ggc Gly	gct Ala	cgc Arg 5	ggc Gly	gcc Ala	tgg Trp	gat Asp	ttt Phe 10		51
ctc t Leu C	gc Ys	gtt Val	Leu	ctc Leu 15	cta Leu	ctg Leu	ctt Leu	cgc Arg	gtc Val 20	cag Gln	aca Thr	ggc Gly	tct Ser	tct Ser 25	caa Gln		99
cca t Pro S	ct	gtg Val	agt Ser 30	cca Pro	gjå aaa	gaa Glu	ccg Pro	tct Ser 35	cca Pro	cca Pro	tcc Ser	atc Ile	cat His 40	cca Pro	gga Gly	1	47
aaa t Lys S	ca Ser	gac Asp 45	tta Leu	ata Ile	gtc Val	cgc Arg	gtg Val 50	ggc Gly	gac Asp	gag Glu	att Ile	agg Arg 55	çtg Leu	tta Leu	tgc Cys	1	.95
act g Thr A	gat Asp 50	ccg Pro	ggc Gly	ttt Phe	gtc Val	aaa Lys 65	tgg Trp	act Thr	ttt Phe	gag Glu	atc Ile 70	ctg Leu	gat Asp	gaa Glu	acg Thr	2	43
aat c Asn G 75																2	91
aac a Asn T	acc Thr	ggc Gly	aaa Lys	tac Tyr 95	acg Thr	tgc Cys	acc Thr	aac Asn	aaa Lys 100	cac His	ggc Gly	tta Leu	agc Ser	aat Asn 105	tco Ser	3	39
att t Ile T	at Tyr	gtg Val	ttt Phe 110	gtt V al	aga Arg	gat Asp	cct Pro	gcc Ala 115	aag Lys	ctt Leu	ttc Phe	ctt Leu	gtt Val 120	gac Asp	cgc Arg	3	87
tcc t Ser I	tg Leu	tat Tyr 125	ggg ggg	aaa Lys	gaa Glu	gac Asp	aac Asn 130	gac Asp	acg Thr	ctg Leu	gtc Val	cgc Arg 135	tgt Cys	cct Pro	ctc Leu	4	135
aca c	gac	cca	gaa	gtg	acc	aat	tat	tcc	ctc	aag	999	tgc	ćag	ggg	aag	4	183

WO 2005/057223

380

PCT/US2004/040547 destitic 15 may 2006 Thr Asp Pro Glu Val Thr Asn Tyr Ser Leu Lys Gly 150 cct ctt ccc aag gac ttg agg ttt att cct gac ccc aag gcg ggc atc 531 Pro Leu Pro Lys Asp Leu Arg Phe Ile Pro Asp Pro Lys Ala Gly Ile 160 atg atc aaa agt gtg aaa cgc gcc tac cat cgg ctc tgt ctg cat tgt 579 Met Ile Lys Ser Val Lys Arg Ala Tyr His Arg Leu Cys Leu His Cys tet gtg gac cag gag ggc aag tea gtg etg teg gaa aaa tte ate etg 627 Ser Val Asp Gln Glu Gly Lys Ser Val Leu Ser Glu Lys Phe Ile Leu 195 190 aaa gtg agg cca gcc ttc aaa gct gtg cct gtt gtg tct gtg tcc aaa 675 Lys Val Arg Pro Ala Phe Lys Ala Val Pro Val Val Ser Val Ser Lys 215 gca agc tat ctt ctt agg gaa ggg gaa gaa ttc aca gtg acg tgc aca 723 Ala Ser Tyr Leu Leu Arg Glu Gly Glu Glu Phe Thr Val Thr Cys Thr ata aaa gat gtg tct agt 'tct gtg tac tca acg tgg aaa aga gaa aac 771 Ile Lys Asp Val Ser Ser Ser Val Tyr Ser Thr Trp Lys Arg Glu Asn 240 agt cag act aaa cta cag gag aaa tat aat agc tgg cat cac ggt gac 819 Ser Gln Thr Lys Leu Gln Glu Lys Tyr Asn Ser Trp His His Gly Asp 260 ttc aat tat gaa cgt cag gca acg ttg act atc agt tca gcg aga gtt 867 Phe Asn Tyr Glu Arg Gln Ala Thr Leu Thr Ile Ser Ser Ala Arg Val 275 aat gat tot gga gtg ttc atg tgt tat gcc aat aat act ttt gga tca 915 Asn Asp Ser Gly Val Phe Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser 290 285 gca aat gtc aca aca acc ttg gaa gta gta gat aaa gga ttc att aat 963 Ala Asn Val Thr Thr Leu Glu Val Val Asp Lys Gly Phe Ile Asn 300 atc ttc ccc atg ata aac act aca gta ttt gta aac gat gga gaa aat 1011 Ile Phe Pro Met Ile Asn Thr Thr Val Phe Val Asn Asp Gly Glu Asn 325 320 315 gta gat ttg att gtt gaa tat gaa gca ttc ccc aaa cct gaa cac cag 1059 Val Asp Leu Ile Val Glu Tyr Glu Ala Phe Pro Lys Pro Glu His Gln 335 1107 cag tgg atc tat atg aac aga acc ttc act gat aaa tgg gaa gat tat Gln Trp Ile Tyr Met Asn Arg Thr Phe Thr Asp Lys Trp Glu Asp Tyr 360 355 ccc aag tot gag aat gaa agt aat atc aga tac gta agt gaa ott cat 1155 Pro Lys Ser Glu Asn Glu Ser Asn Ile Arg Tyr Val Ser Glu Leu His 370 cta acg aga tta aaa ggc acc gaa gga ggc act tac aca ttc cta gtg 1203 Leu Thr Arg Leu Lys Gly Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val

385

tcc Ser 395	aat Asn	tct Ser	gac Asp	gtc Val	aat Asn 400	gct Ala	gcc Ala	ata Ile	gca Ala	ttt Phe 405	aat Asn	gtt Val	tat Tyr	gtg Val	aat Asn 410	1251
aca Thr	aaa Lys	cca Pro	gaa Glu	atc Ile 415	ctg Leu	act Thr	tac Tyr	gac Asp	agg Arg 420	ctc Leu	gtg Val	aat Asn	ggc Gly	atg Met 425	ctc Leu	1299 ·
caa Gln	tgt Cys	gtg Val	gca Ala 430	gca Ala	gga Gly	ttc Phe	cca Pro	gag Glu 435	ccc Pro	aca Thr	ata Ile	gat Asp	tgg Trp 440	tat Tyr	ttt Phe	1347
tgt Cys	cca Pro	gga Gly 445	act Thr	gag Glu	cag Gln	aga Arg	tgc Cys 450	tct Ser	gct Ala	tct Ser	gta Val	ctg Leu 455	cca Pro	gtg Val	gat Asp	1395
gtg Val	cag Gln 460	aca Thr	cta Leu	aac Asn	tca Ser	tct Ser 465	G1Å 333	cca Pro	ccg Pro	ttt Phe	gga Gly 470	aag Lys	cta Leu	gtg Val	gtt Val	1443
cag Gln 475	agt Ser	tct Ser	ata Ile	gat Asp	tct Ser 480	agt Ser	gca Ala	ttc Phe	aag Lys	cac His 485	aat Asn	ggc Gly	acg Thr	gtt Val	gaa Glu 490	1491
tgt Cys	aag Lys	gct Ala	tac Tyr	aac Asn 495	gat Asp	gtg Val	ggc Gly	aag Lys	act Thr 500	tct Ser	gcc Ala	tat Tyr	ttt Phe	aac Asn 505	ttt Phe	1539
gca Ala	ttt Phe	aaa Lys	ggt Gly 510	aac Asn	aac Asn	aaa Lys	gag Glu	caa Gln 515	atc Ile	cat His	ccc Pro	cac His	acc Thr 520	ctg Leu	ttc Phe	1587
act Thr	cct Pro	ttg Leu 525	ctg Leu	att Ile	ggt Gly	ttc Phe	gta Val 530	atc Ile	gta Val	gct Ala	ggc Gl y	atg Met 535	atg Met	CÀa fàc	att Ile	1635
att Ile	gtg Val 540	atg Met	att Ile	ctg Leu	acc Thr	tac Tyr 545	aaa Lys	tat Tyr	tta Leu	cag Gln	ааа Lys 550	ccc Pro	atg Met	tat Tyr	gaa Glu	1683
gta Val 555	Gln	tgg Trp	aag Lys	gtt Val	gtt Val 560	gag Glu	gag Glu	ata Ile	aat Asn	gga Gly 565	aac Asn	aat Asn	tat Tyr	gtt Val	tac Tyr 570	1731
ata Ile	gac Asp	cca Pro	aca Thr	caa Gln 575	Leu	cct Pro	tat Tyr	gat Asp	cac His 580	aaa Lys	tgg Trp	gag Glu	ttt Phe	ccc Pro 585	aga Arg	1779
aac Asn	agg Arg	ctg Leu	agt Ser 590	Phe	ggg	aaa Lys	acc Thr	ctg Leu 595	Gly	gct Ala	gga Gly	gct Ala	ttc Phe 600	Gly	aag Lys	1827
gtt Val	gtt Val	gag Glu 605	Ala	act Thr	gct Ala	tat Ty r	ggc Gly 610	Leu	att Ile	aag Lys	tca Ser	gat Asp 615	Ala	gcc Ala	atg Met	1875
act Thr	gtc Val 620	Ala	gta Val	aag Lys	atg Met	Leu 625	. Lys	ccg	agt Ser	gcc	cat His 630	Leu	aca Thr	gaa Glu	cgg Arg	1923
gaa Glu 635	Ala	cto Leu	atg Met	tct Ser	gaa Glu 640	Leu	aaa Lys	gto Val	ctg Leu	agt Ser 645	Туг	ctt Leu	ggt Gly	aat Asn	cac His 650	1971

								gcc Ala								2019
								tat Tyr 675							ttg Leu	2067
								tgt Cys								2115
								ctg Leu								21 63
								gac Asp								2211
								agg Arg								2259
								gcc Ala 755								2307
								agc Ser								2355
								aat Asn							gca Ala	2403
								ggt Gly								2451
								aat Asn								2499
								tgg Trp 835								2547
aac Asn	tgt Cys	gta Val 845	tac Tyr	acg Thr	ttt Phe	gaa Glu	agt Ser 850	gac Asp	gtc Val	tgg Trp	tcc Ser	tat Tyr 855	Gly 333	att Ile	ttt Phe	2595
								agc Ser								2643
								atc Ile								2691
								atg Met								2739

tgg gat gca gat ccc cta aaa aga cca aca ttc aag caa att gtt cag Trp Asp Ala Asp Pro Leu Lys Arg Pro Thr Phe Lys Gln Ile Val Gln 910 915 920	2787
cta att gag aag cag att tca gag agc acc aat cat att tac tcc aac Leu Ile Glu Lys Gln Ile Ser Glu Ser Thr Asn His Ile Tyr Ser Asn 925 930 935	2835
tta gca aac tgc agc ccc aac cga cag aag ccc gtg gta gac cat tct Leu Ala Asn Cys Ser Pro Asn Arg Gln Lys Pro Val Val Asp His Ser 940 945 950	2883
gtg cgg atc aat tet gtc ggc agc acc get tec tec tec cag eet etg Val Arg Ile Asn Ser Val Gly Ser Thr Ala Ser Ser Ser Gln Pro Leu 955 960 965 970	2931
ctt gtg cac gac gat gtc tga gcagaatcag tgtttgggtc acccctccag Leu Val His Asp Asp Val 975	2982
gaatgatete ttettttgge ttecatgatg gttattttet tttettteaa ettgeateea	3042
actccaggat agtgggcacc ccactgcaat cctgtctttc tgagcacact ttagtggccg	3102
atgatttttg tcatcagcca ccatcctatt gcaaaggttc caactgtata tattcccaat	3162
agcaacgtag cttctaccat gaacagaaaa cattctgatt tggaaaaaga gagggaggta	3222
tggactgggg gccagagtcc tttccaaggc ttctccaatt ctgcccaaaa atatggttga	3282
tagtttacct gaataaatgg tagtaatcac agttggcctt cagaaccatc catagtagta	3342
tgatgataca agattagaag ctgaaaacct aagtccttta tgtggaaaac agaacatcat	3402
tagaacaaag gacagagtat gaacacctgg gcttaagaaa tctagtattt catgctggga	3462
atgagacata ggccatgaaa aaaatgatcc ccaagtgtga acaaaagatg ctcttctgtg	3522
gaccactgca tgagctttta tactaccgac ctggttttta aatagagttt gctattagag	3582
cattgaattg gagagaaggc ctccctagcc agcacttgta tatacgcatc tataaattgt	3642
ccgtgttcat acatttgagg ggaaaacacc ataaggtttc gtttctgtat acaaccctgg	3702
cattatgtcc actgtgtata gaagtagatt aagagccata taagtttgaa ggaaacagtt	3762
aataccattt tttaaggaaa caatataacc acaaagcaca gtttgaacaa aatctcctct	3822
tttagctgat gaacttattc tgtagattct gtggaacaag cctatcagct tcagaatggc	3882
attgtactca atggatttga tgctgtttga caaagttact gattcactgc atggctccca	3942
caggagtggg aaaacactgc catcttagtt tggattetta tgtagcagga aataaagtat	4002
aggtttagec teettegeag geatgteetg gacaceggge cagtatetat atatgtgtat	4062
gtacgtttgt atgtgtgtag acaaatattt ggaggggtat ttttgccctg agtccaagag	4122
ggtcctttag tacctgaaaa gtaacttggc tttcattatt agtactgctc ttgtttcttt	4182
tcacatagct gtctagagta gcttaccaga agcttccata gtggtgcaga ggaagtggaa	4242
ggcatcagtc cctatgtatt tgcagttcac ctgcacttaa ggcactctgt tatttagact	4302

catcttactg tacctgttcc ttagaccttc cataatgcta ctgtctcact gaaacattta 4362 aattttaccc tttagactgt agcctggata ttattcttgt agtttacctc tttaaaaaca 4422 aaacaaaaca aaacaaaaaa ctccccttcc tcactgccca atataaaagg caaatgtgta 4482 catggcagag tttgtgtgtt gtcttgaaag attcaggtat gttgccttta tggtttcccc 4542 cttctacatt tcttagacta catttagaga actgtggccg ttatctggaa gtaaccattt 4602 cacccaagag attgttgttt gccatacttt gtctgaaaaa ttcctttgtg tttctattga 4722 cttcaatgat agtaagaaaa gtggttgtta qttatagatg tctaggtact tcaggggcac 4782 ttcattgaga gttttgtctt gccatacttt gtctgaaaaa ttcctttgtg tttctattga 4842 cttcaatgat agtaagaaaa gtggttgtta gttatagatg tctaggtact tcaggggcac 4902 ttcattgaga gttttgtcaa tgtcttttga atattcccaa gcccatgagt ccttgaaaat 4962 attttttata tatacagtaa ctttatgtgt aaatacataa gcggcgtaag tttaaaggat 5022 gttggtgttc cacgtgtttt attcctgtat gttgtccaat tgttgacagt tctgaagaat 5082 5084 tc

<210> 2

<211> 976

<212> PRT

<213> Homo sapiens

<220>

<221> sig peptide

<222> (1)..(22)

<400> 2

Met Arg Gly Ala Arg Gly Ala Trp Asp Phe Leu Cys Val Leu Leu Leu 1 5 10 15

Leu Leu Arg Val Gln Thr Gly Ser Ser Gln Pro Ser Val Ser Pro Gly 20 25 30

Glu Pro Ser Pro Pro Ser Ile His Pro Gly Lys Ser Asp Leu Ile Val 35 40 45

Arg Val Gly Asp Glu Ile Arg Leu Leu Cys Thr Asp Pro Gly Phe Val 50 55 60

Lys Trp Thr Phe Glu Ile Leu Asp Glu Thr Asn Glu Asn Lys Gln Asn 65 70 75 80

Glu Trp Ile Thr Glu Lys Ala Glu Ala Thr Asn Thr Gly Lys Tyr Thr 85 90 95

Cys Thr Asn Lys His Gly Leu Ser Asn Ser Ile Tyr Val Phe Val Arg 100 105 110

ŧ

- Asp Pro Ala Lys Leu Phe Leu Val Asp Arg Ser Leu Tyr Gly Lys Glu 115 120 125
- Asp Asn Asp Thr Leu Val Arg Cys Pro Leu Thr Asp Pro Glu Val Thr 130 135 140
- Asn Tyr Ser Leu Lys Gly Cys Gln Gly Lys Pro Leu Pro Lys Asp Leu 145 150 155 160
- Arg Phe Ile Pro Asp Pro Lys Ala Gly Ile Met Ile Lys Ser Val Lys
 165 170 175
 - Arg Ala Tyr His Arg Leu Cys Leu His Cys Ser Val Asp Gln Glu Gly
 - Lys Ser Val Leu Ser Glu Lys Phe Ile Leu Lys Val Arg Pro Ala Phe 195 200 205
 - Lys Ala Val Pro Val Val Ser Val Ser Lys Ala Ser Tyr Leu Leu Arg 210 215 220
 - Glu Gly Glu Glu Phe Thr Val Thr Cys Thr Ile Lys Asp Val Ser Ser 225 230 235 240
 - Ser Val Tyr Ser Thr Trp Lys Arg Glu Asn Ser Gln Thr Lys Leu Gln 245 250 255
 - Glu Lys Tyr Asn Ser Trp His His Gly Asp Phe Asn Tyr Glu Arg Gln 260 265 . 270
 - Ala Thr Leu Thr Ile Ser Ser Ala Arg Val Asn Asp Ser Gly Val Phe 275 280 285
 - Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val Thr Thr Thr 290 295 300
 - Leu Glu Val Val Asp Lys Gly Phe Ile Asn Ile Phe Pro Met Ile Asn 305 310 315 320
 - Thr Thr Val Phe Val Asn Asp Gly Glu Asn Val Asp Leu Ile Val Glu 325 330 335
 - Tyr Glu Ala Phe Pro Lys Pro Glu His Gln Gln Trp Ile Tyr Met Asn 340 345 350

- Arg Thr Phe Thr Asp Lys Trp Glu Asp Tyr Pro Lys Ser Glu Asn Glu 355 360 365
- Ser Asn Ile Arg Tyr Val Ser Glu Leu His Leu Thr Arg Leu Lys Gly 370 375 380
- Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser Asp Val Asn 385 390 395 400
- Ala Ala Ile Ala Phe Asn Val Tyr Val Asn Thr Lys Pro Glu Ile Leu 405 410 415
- Thr Tyr Asp Arg Leu Val Asn Gly Met Leu Gln Cys Val Ala Ala Gly
 420 425 430
- Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Pro Gly Thr Glu Gln
 435 440 445
- Arg Cys Ser Ala Ser Val Leu Pro Val Asp Val Gln Thr Leu Asn Ser 450 455 460
- Ser Gly Pro Pro Phe Gly Lys Leu Val Val Gln Ser Ser Ile Asp Ser 465 470 475 480
- Ser Ala Phe Lys His Asn Gly Thr Val Glu Cys Lys Ala Tyr Asn Asp 485 490 495
- Val Gly Lys Thr Ser Ala Tyr Phe Asn Phe Ala Phe Lys Gly Asn Asn 500 505 510
- Lys Glu Gln Ile His Pro His Thr Leu Phe Thr Pro Leu Leu Ile Gly 515 520 525
- Phe Val Ile Val Ala Gly Met Met Cys Ile Ile Val Met Ile Leu Thr 530 535 540
- Tyr Lys Tyr Leu Gln Lys Pro Met Tyr Glu Val Gln Trp Lys Val Val 545 550 555 560
- Glu Glu Ile Asn Gly Asn Asn Tyr Val Tyr Ile Asp Pro Thr Gln Leu 565 570 575
- Pro Tyr Asp His Lys Trp Glu Phe Pro Arg Asn Arg Leu Ser Phe Gly 580 585 590
- Lys Thr Leu Gly Ala Gly Ala Phe Gly Lys Val Val Glu Ala Thr Ala 595 600 605 .

- Tyr Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val Lys Met 610 620
- Leu Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met Ser Glu 625 630 635 635
- Leu Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val Asn Leu 645 650 655
- Leu Gly Ala Cys Thr Ile Gly Gly Pro Thr Leu Val Ile Thr Glu Tyr
 660 665 670
- Cys Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg Asp Ser 675 680 685
- Phe Ile Cys Ser Lys Gln Glu Asp His Ala Glu Ala Ala Leu Tyr Lys 690 695 700
- Asn Leu Leu His Ser Lys Glu Ser Ser Cys Ser Asp Ser Thr Asn Glu 705 710 715 720
- Tyr Met Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Ala 725 730 735
- Asp Lys Arg Arg Ser Val Arg Ile Gly Ser Tyr Ile Glu Arg Asp Val 740 745 750
- Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Glu Asp 765
- Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Gly Met Ala Phe Leu Ala 770 780
- Ser Lys Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu 785 790 795 800
- Thr His Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp 805 810 815
- Ile Lys Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro 820 825 830
- Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr Phe 835 840 845
- Glu Ser Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser . 850 855 860

Leu Gly Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr 865 Lys Met Ile Lys Glu Gly Phe Arg Met Leu Ser Pro Glu His Ala Pro 890 Ala Glu Met Tyr Asp Ile Met Lys Thr Cys Trp Asp Ala Asp Pro Leu 910 905 Lys Arg Pro Thr Phe Lys Gln Ile Val Gln Leu Ile Glu Lys Gln Ile 920 915 Ser Glu Ser Thr Asn His Ile Tyr Ser Asn Leu Ala Asn Cys Ser Pro Asn Arg Gln Lys Pro Val Val Asp His Ser Val Arg Ile Asn Ser Val 955 Gly Ser Thr Ala Ser Ser Ser Gln Pro Leu Leu Val His Asp Asp Val 970 965 <210> 3 <211> 5132 <212> DNA <213> Mus musculus <220> <221> CDS <222> (29)..(2956) gageteagag tetagegeag ecacegeg atg aga gge get ege gge gee tgg 52 Met Arg Gly Ala Arg Gly Ala Trp gat ctg ctc tgc gtc ctg ttg gtc ctg ctc cgt ggc cag aca gcc acg 100 Asp Leu Leu Cys Val Leu Leu Val Leu Leu Arg Gly Gln Thr Ala Thr tet cag cea tet gea agt cea ggg gag ceg tet ceg cea tee ate cat 148 Ser Gln Pro Ser Ala Ser Pro Gly Glu Pro Ser Pro Pro Ser Ile His 30 196 cca gca caa tca gag tta ata gtt gaa gct ggc gac acc ctc agc ctg Pro Ala Gln Ser Glu Leu Ile Val Glu Ala Gly Asp Thr Leu Ser Leu acg tgc att gat ccc gac ttt gtc aga tgg act ttc aag acc tat ttc 244 Thr Cys Ile Asp Pro Asp Phe Val Arg Trp Thr Phe Lys Thr Tyr Phe 65 292 aat gaa atg gtt gag aat aaa aaa aat gaa tgg atc cag gaa aaa gcc Asn Glu Met Val Glu Asn Lys Lys Asn Glu Trp Ile Gln Glu Lys Ala 80

gag Glu	gcc Ala 90	act Thr	c gc A rg	acg Thr	ggc	aca Thr 95	tac Tyr	acg Thr	tgc Cys	agc Ser	aac Asn 100	agc Ser	aat Asn	Gly	ctc Leu		340
acg Thr 105	agt Ser	tct Ser	att Ile	tac Tyr	gtg Val 110	ttt Phe	gtt Val	aga Arg	gat Asp	cct Pro 115	gcc Ala	aaa Lys	ctt Leu	ttc Phe	ctg Leu 120		388
gtt Val	ggc Gly	ctt Leu	ccc Pro	ttg Leu 125	ttt Phe	ggc	aaa Lys	gaa Glu	gac Asp 130	agc Ser	gac Asp	gcg Ala	ctg Leu	gtc Val 135	cgc Arg		436
tgc Cys	cct Pro	ctg Leu	aca Thr 140	gac Asp	cca Pro	cag Gln	gtg Val	tcc Ser 145	aat Asn	tat Tyr	tcc Ser	ctc Leu	atc Ile 150	gag Glu	tgt Cys		484
gat Asp	Gly 999	aaa Lys 155	tct Ser	ctc Leu	ccc Pro	acg Thr	gac Asp 160	ctg Leu	acg Thr	ttt Phe	gtc Val	cca Pro 165	Asn	ccc Pro	aag Lys		532
gct Ala	ggc Gly 170	atc Ile	acc Thr	atc Ile	aaa Lys	aac Asn 175	gtg Val	aag Lys	cgc Arg	gcc Ala	tac Tyr 180	cac His	cgg Arg	ctc Leu	tgt Cys		580
gtc Val 185	cgc Arg	tgt Cys	gct Ala	gct Ala	cag Gln 190	cgt Arg	gac Asp	ggt Gly	aca Thr	tgg Trp 195	ctg Leu	cat His	tct Ser	gac Asp	aaa Lys 200		628
ttc Phe	acc Thr	ctc Leu	aaa Lys	gtg Val 205	cgg Arg	gaa Glu	gcc Ala	atc Ile	aag Lys 210	gct Ala	atc Ile	cct Pro	gtt Val	gtg Val 215	tct Ser		676
gtg Val	cct Pro	gaa Glu	aca Thr 220	agt Ser	cac His	ctc Leu	ctt Leu	aag Lys 225	aaa Lys	999 999	gac Asp	aca Thr	ttt Phe 230	acg Thr	gtg Val		724
gtg Val	tgc Cys	acc Thr 235	ata Ile	aaa Lys	gat Asp	gtg Val	tct Ser 240	aca Thr	tcc Ser	gtg Val	aac Asn	tcc Ser 245	atg Met	tgg Trp	cta Leu		772
aag Lys	atg Met 250	aac Asn	cct Pro	cag Gln	cct Pro	cag Gln 255	cac His	ata Ile	gcc Ala	cag Gln	gta Val 260	aag Lys	cac His	aat Asn	agc Ser		820
tgg Trp 265	cac His	cgg Arg	ggt Gly	gac Asp	ttc Phe 270	aat Asn	tat Tyr	gaa Glu	cgc Arg	cag Gln 275	gag Glu	acg Thr	ctg Leu	act Thr	atc Ile 280		868
agc Ser	tcg Ser	gca Ala	aga Arg	gtt Val 285	gac Asp	gat Asp	tct Ser	gga Gly	gtg Val 290	ttc Phe	atg Met	tgt Cys	tat Tyr	gcc Ala 295	aat Asn		916
aat Asn	act Thr	ttt Phe	gga Gly 300	tca Ser	gca [°] Ala	aat Asn	gtc Val	aca Thr 305	aca Thr	acc Thr	ttg Leu	aaa Lys	gta Val 310	gta Val	gaa Glu		964
aaa Lys	gga Gly	ttc Phe 315	atc Ile	aac Asn	atc Ile	tcc Ser	cct Pro 320	gtg Val	aag Lys	aac Asn	act Thr	aca Thr 325	gta Val	ttt Phe	gta Val	1	.012
acc Thr	gat Asp 330	gga Gly	gaa Glu	aac Asn	gta Val	gat Asp 335	ttg Leu	gtt Val	gtt Val	Glu	tac Tyr 340	gag Glu	gcc Ala	tac Tyr	ccc Pro	1	.060

aaa Lys 345	ccc Pro	gag Glu	cac His	cag Gln	cag Gln 350	tgg Trp	ata Ile	tat Tyr	atg Met	aac Asn 355	agg Arg	acc Thr	tcg Ser	gct Ala	aac Asn 360	1108
aaa Lys	gly ggg	aag Lys	gat Asp	tat Tyr 365	gtc Val	aaa Lys	tct Ser	gat Asp	aac Asn 370	aaa Lys	agc Ser	aac Asn	atc Ile	aga Arg 375	tat Tyr	1156
gtg Val	aac Asn	caa Gln	ctt Leu 380	cgc Arg	ctg Leu	acc Thr	aga Arg	tta Leu 385	aaa Lys	ggc Gly	aca Thr	gaa Glu	gga Gly 390	ggc Gly	act Thr	 1204
tat Tyr	acc Thr	ttt Phe 395	ctg Leu	gtg Val	tcc Ser	aac Asn	tct Ser 400	gat Asp	gcc Ala	agt Ser	gct Ala	tcc Ser 405	gtg Val	aca Thr	ttc Phe	1252
aac Asn	gtt Val 410	tac Tyr	gtg Val	aac Asn	aca Thr	aaa Lys 415	cca Pro	gaa Glu	atc Ile	ctg Leu	acg Thr 420	tac Tyr	gac Asp	agg Arg	ctc Leu	1300
ata Ile 425	aat Asn	ggc Gly	atg Met	ctc Leu	cag Gln 430	tgt Cys	gtg Val	gca Ala	gag Glu	gga Gly 435	ttc Phe	ccg Pro	gag Glu	ccc Pro	aca Thr 440	1348
ata Ile	gat Asp	tgg Trp	tat Tyr	ttt Phe 445	tgt Cys	aca Thr	gga Gly	gca Ala	gag Glu 450	caa Gln	agg Arg	tgt Cys	acc Thr	act Thr 455	cct Pro	1396
gtc Val	tca Ser	cca Pro	gtg Val 460	gac Asp	gta Val	cag Gln	gtc Val	cag Gln 465	aat Asn	gta Val	tct Ser	gtg Val	tca Ser 470	cca Pro	ttt Phe	1444
gga Gly	aaa Lys	ctg Leu 475	gt g Val	gtt Val	cag Gln	agt Ser	tcc Ser 480	ata Ile	gac Asp	tcc Ser	agc Ser	gtc Val 485	ttc Phe	cgg Arg	cac His	1492
aac Asn	ggc Gly 490	acg Thr	gtg Val	gag Glu	tgt Cys	aag Lys 495	gcc Ala	tcc Ser	aac Asn	gat Asp	gtg Val 500	ggc	aag Lys	agt Ser	tcc Ser	1540
gcc Ala 505	ttc Phe	ttt Phe	aac Asn	ttt Phe	gca Ala 510	ttt Phe	aaa Lys	gag Glu	caa Gln	atc Ile 515	cag Gln	gcc Ala	cac His	act Thr	ctg Leu 520	1588
ttc Phe	acg Thr	ccg Pro	ctg Leu	ctc Leu 525	att Ile	ggc	ttt Phe	gtg Val	gtc Val 530	gca Ala	gct Ala	ggc Gly	gcg Ala	atg Met 535	ggg Gly	1636
atc Ile	att Ile	gtg Val	atg Met 540	gtg Val	ctc Leu	acc Thr	tac Tyr	aaa Lys 545	tat Tyr	ttg Leu	cag Gln	aaa Lys	ccc Pro 550	atg Met	tat Tyr	1684
gaa Glu	gta Val	caa Gln 555	Trp	aag Lys	gtt Val	gtc Val	gag Glu 560	gag Glu	ata Ile	aat Asn	gga Gly	aac Asn 565	aat Asn	tat Tyr	gtt Val	1732
tac Tyr	ata Ile 570	Asp	ccg Pro	acg Thr	caa Gln	ctt Leu 575	cct Pro	tat Tyr	gat Asp	cac His	aaa Lys 580	Trp	gag Glu	ttt Phe	ccc Pro	1780
aga Arg 585	Asn	agg Arg	ctg Leu	agt Ser	ttt Phe 590	Gly	aag Lys	aca Thr	ttg Leu	gga Gly 595	Ala	ggt Gly	gcc Ala	ttc Phe	600 Gly BBB	1828

aag gtc Lys Val	gtt gag Val Glu	gcc act Ala Thr 605	gca ta Ala Ty	it ggc r Gly	ttg Leu 610	att Ile	aag Lys	tcg Ser	gat Asp	gct Ala 615	gcc Ala	1876
		gtg aag Val Lys										1924
		atg tcg Met Ser	Glu Le									 1972
_		gtg aac Val Asn	_	~~	_	_	_					202 0
		aca gaa Thr Glu 670										2068
		cgt gac Arg Asp 685										2116
		ctt tat Leu Tyr										2164
tgt gac Cys Asp	agt tca Ser Ser 715	aat gaa Asn Glu	Tyr Me	g gac et Asp 20	atg Met	aag Lys	cct Pro	ggc Gly 725	gtt Val	tcc Ser	tac Tyr	2212
		aag aca Lys Thr										2260
		gac gtg Asp Val 750										2308
		gat gat Asp Asp 765										2356
gcg atg Ala Met	gcg ttc Ala Phe 780	ctc gcc Leu Ala	tcc as Ser Ly	ag aat 78 Asn 785	Cys	att Ile	cac His	aga Arg	gat Asp 790	ttg Leu	gca Ala	2404
gcc agg Ala Arg	aat atc Asn Ile 795	ctc ctc Leu Leu	Thr H	ac ggg is Gly 00	cgg	atc Ile	aca Thr	aag Lys 805	att Ile	tgc Cys	gat Asp	2452
		aga gac Arg Asp										250 0
		ctg ccc Leu Pro 830	Val L									2548 -
agc tgc Ser Cys	gtg tac Val Tyr	aca ttt Thr Phe 845	gaa a Glu S	gt gat er Asp	gtc Val 850	tgg Trp	tcc Ser	tat Tyr	gly 999	att Ile 855	ttc Phe	2596

ctc tgg gag ctc ttc tcc tta gga agc agc ccc tac cca ggg atg ccg Leu Trp Glu Leu Phe Ser Leu Gly Ser Ser Pro Tyr Pro Gly Met Pro 860 865 870	2644
gtc gac tcc aag ttc tac aag atg atc aag gaa ggc ttc cgg atg gtc Val Asp Ser Lys Phe Tyr Lys Met Ile Lys Glu Gly Phe Arg Met Val 875 880 885	2692
agc ccg gag cac gcg cct gcc gaa atg tat gac gtc atg aag act tgc Ser Pro Glu His Ala Pro Ala Glu Met Tyr Asp Val Met Lys Thr Cys 890 . 895 900	2740 :
tgg gac gct gac ccc ttg aaa agg cca aca ttc aag cag gtt gtc caa Trp Asp Ala Asp Pro Leu Lys Arg Pro Thr Phe Lys Gln Val Val Gln 905 910 915 920	2788
ctt att gag aag cag atc tcg gac agc acc aag cac att tac tcc aac Leu Ile Glu Lys Gln Ile Ser Asp Ser Thr Lys His Ile Tyr Ser Asn 925 930 935	2836
ttg gca aac tgc aac ccc aac cca gag aac ccc gtg gtg gtg gac cat Leu Ala Asn Cys Asn Pro Asn Pro Glu Asn Pro Val Val Asp His 940 945 950	2884
tcc gtg agg gtc aac tcg gtg ggc agc agc gcc tct tct acg cag ccc Ser Val Arg Val Asn Ser Val Gly Ser Ser Ala Ser Ser Thr Gln Pro 955 960 965	2932
ctg ctc gtg cac gaa gat gcc tga gcagaaaccc aagtccaaca ggctttgctg Leu Leu Val His Glu Asp Ala 970 975	2986
ctgtctccga ccccgtcctt ctggcttctg tgatggttac ttggtttccc tttgacttgc	3046
: atcctattcc agggtagcga gttccccacc ccacctccaa ccccactgtg attccgcctt	3106
tacgagcaca cactttagtg gccgatggct tttcttttct	3166
tgcgaaggtc cgaactgtat gtatatattt tcccaatagc aaagtagctc ctactgtaaa	3226 .
cagaaggact ceteetgett tagaggagaa gggaagggeg gggtgaaaet ggatgeecag	3286
agttcttccc ccagtgctcc cctgagtgta tttgaaaagt atggccagta gttcacttga	3346
agaatagatg tagtcccatt tggccctgag agccatcctt aatgatggga gatatatgta	3406
gcaagactag aaagccaagc cctttgtgta gaaagcagac cattcttaga acagagggca	3466
acggggcatc ggaagtctgg tcacgctaag aagaccgagg ctgagaagga acaagccagg	3526
ggaagegtga acaatgatge tetgetetgg getgeegete gggettetgt acaactgace	3586
tggtttctca gtactttgct gtctgggagt agcattggaa tcaaggcctc ctccctagtc	3646
agcetttgta tatacteate tatacgttgt atgegtteat aetttggagg agggatttee	3706
cacaagettt egtttetgtg tacageeetg gattagaeet aetgtgtgta agaatagatt	37 66
aagagccata catatttgaa ggaaacagtt aaatgttttt tggttgtggt tgttgttgtt	3826
gttgttttaa agaaaaaaat gtatatgcta agcacaatct ttataagacc tcttagccaa	3886
catacttgct ctgtctacac ttcggaacaa gccttccatg tcagagtggc tttgcaggca	3946

```
ggagaactga ggctgtttga aaaggttacc acaggatgga gaaaacagtg cagtcctggt
                                                                     4006
ttggattctc acatagcagg gagcacaagt taaactcgac cttttatagg cacgtcccgg
                                                                     4066
acatcgggcc tgtatctatt caagtgtgta tgtgtgtgca tgcgtgtgtc tatgcgtgtg
                                                                     4126
ggtgagttgt gttgggaaac ttgccctgca tccctgaggg tcctccttca ggacccaaga
                                                                     4186
cgtaacaget tetgteaceg etcetgtete tecagtttee etgeatgteg etcaetgtet
                                                                     4246
agaatttact caaagccgcc acagaggctt agcggagtga agtgccgaag gacctcttta --4306
tttggagtcc tcctgtattt aacaacactc ttatcgtaga cccattcatt agaccttatg
                                                                     4366
taatgctgcc aatccaggga aacagattta aagtgtaccc cgtagacagg gcccagaggt
                                                                     4426
tecettgtee ttgeectece ceacaccace catgateaet gtecaacata aagggtteag
                                                                     4486
tgtgttacgt ggtcatgtgt tgtccttaca ggattcaggt atgttgcctt cacggttttc
                                                                     4546
cccacccct cctgcccttt atcctttagg ccgtgtggcc atgaacctgg aagaagtgat
                                                                     4606
cgtttcgact tgagtgctac actcttgcac ctttccaaag taagctggtt tggaggtcct
                                                                     4666
gtggtcatgt acgagactgt caccagttac cgcgctctgt ttgaaacatg tctttgtatt
                                                                     4726
cctaatgact tcagttagag taaggagaat agctgttaat atggatgtca ggtacttaag
                                                                     4786
gggccacacc attgagaatt ttgtcttgga tattcttgaa agtttatatt tttataattt
                                                                     4846
tttttacatc agatgtcaga tgtttctttc agttgcttga tgtttggaat tattatgtgg
                                                                     4905
ctttttttgt aaatattgaa atgtagcaat aatgtctttt gaatattcct gagcccatga
                                                                     4966
gtccctgaaa atatttttta tatatacagt aactttatgt gtaaataata cgctgtgcaa
                                                                     5026 🐇
gtttaaacat gtcacgttac atgtgggttt tttctgatat gttgtccaac tgttgacagt
                                                                     5086 .
                                                                      5132
 totgaagaat totaataaaa atgtaaatat ataaatcaaa aaaaaa
```

<212> PRT

<213> Mus musculus

<220>

<221> sig_peptide

<222> (1)..(21)

<400> 4

Met Arg Gly Ala Arg Gly Ala Trp Asp Leu Leu Cys Val Leu Leu Val 1 5 10 15

Leu Leu Arg Gly Gln Thr Ala Thr Ser Gln Pro Ser Ala Ser Pro Gly 20 . 25 30

Glu Pro Ser Pro Pro Ser Ile His Pro Ala Gln Ser Glu Leu Ile Val 35 40 45

<210> 4 <211> 975

Glu Ala Gly Asp Thr Leu Ser Leu Thr Cys Ile Asp Pro Asp Phe Val

Arg Trp Thr Phe Lys Thr Tyr Phe Asn Glu Met Val Glu Asn Lys Lys 65 70 75 80

Asn Glu Trp Ile Gln Glu Lys Ala Glu Ala Thr Arg Thr Gly Thr Tyr 85 90 95

Thr Cys Ser Asn Ser Asn Gly Leu Thr Ser Ser Ile Tyr Val Phe Val 100 105 110

Arg Asp Pro Ala Lys Leu Phe Leu Val Gly Leu Pro Leu Phe Gly Lys 115 120 125

Glu Asp Ser Asp Ala Leu Val Arg Cys Pro Leu Thr Asp Pro Gln Val 130 135 140

Ser Asn Tyr Ser Leu Ile Glu Cys Asp Gly Lys Ser Leu Pro Thr Asp 145 150 155 160

Leu Thr Phe Val Pro Asn Pro Lys Ala Gly Ile Thr Ile Lys Asn Val 165 170 175

Lys Arg Ala Tyr His Arg Leu Cys Val. Arg Cys Ala Ala Gln Arg Asp 180 185 190

Gly Thr Trp Leu His Ser Asp Lys Phe Thr Leu Lys Val Arg Glu Ala 195 200 205

Ile Lys Ala Ile Pro Val Val Ser Val Pro Glu Thr Ser His Leu Leu 210 215 220

Lys Lys Gly Asp Thr Phe Thr Val Val Cys Thr 1le Lys Asp Val Ser 225 230 235 240

Thr Ser Val Asn Ser Met Trp Leu Lys Met Asn Pro Gln Pro Gln His 245 250 255

Ile Ala Gln Val Lys His Asn Ser Trp His Arg Gly Asp Phe Asn Tyr 260 265 270

Glu Arg Gln Glu Thr Leu Thr Ile Ser Ser Ala Arg Val Asp Asp Ser 275 280 285

Gly Val Phe Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val 290 295 300

. .

Thr Thr Thr Leu Lys Val Val Glu Lys Gly Phe Ile Asn Ile Ser Pro 305 310 315 320

- Val Lys Asn Thr Thr Val Phe Val Thr Asp Gly Glu Asn Val Asp Leu 325 330 335
- Val Val Glu Tyr Glu Ala Tyr Pro Lys Pro Glu His Gln Gln Trp Ile 340 345 350
- Tyr Met Asn Arg Thr Ser Ala Asn Lys Gly Lys Asp Tyr Val Lys Ser 355 360 365
- Asp Asn Lys Ser Asn Ile Arg Tyr Val Asn Gln Leu Arg Leu Thr Arg 370 375 380
- Leu Lys Gly Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser 385 390 395 400
- Asp Ala Ser Ala Ser Val Thr Phe Asn Val Tyr Val Asn Thr Lys Pro
 405 410 415
- Glu Ile Leu Thr Tyr Asp Arg Leu Ile Asn Gly Met Leu Gln Cys Val 420 425 430
- Ala Glu Gly Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Thr Gly
 435 440 445
- Ala Glu Gln Arg Cys Thr Thr Pro Val Ser Pro Val Asp Val Gln Val
 450 455 460
- Gln Asn Val Ser Val Ser Pro Phe Gly Lys Leu Val Val Gln Ser Ser 465 470 475 480
- Ile Asp Ser Ser Val Phe Arg His Asn Gly Thr Val Glu Cys Lys Ala 485 490 495
- Ser Asn Asp Val Gly Lys Ser Ser Ala Phe Phe Asn Phe Ala Phe Lys 500 505 510
- Glu Gln Ile Gln Ala His Thr Leu Phe Thr Pro Leu Leu Ile Gly Phe 515 520 525
- Val Val Ala Ala Gly Ala Met Gly Ile Ile Val Met Val Leu Thr Tyr 530 535 540
- Lys Tyr Leu Gln Lys Pro Met Tyr Glu Val Gln Trp Lys Val Val Glu 545 550 560

Glu Ile Asn Gly Asn Asn Tyr Val Tyr Ile Asp Pro Thr Gln Leu Pro 565 570 575

- Tyr Asp His Lys Trp Glu Phe Pro Arg Asn Arg Leu Ser Phe Gly Lys 580 585 590
- Thr Leu Gly Ala Gly Ala Phe Gly Lys Val Val Glu Ala Thr Ala Tyr 595 600 605
- Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val Lys Met Leu 610 620
- Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met Ser Glu Leu 625 630 635 640
 - Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val Asn Leu Leu 645 650 655
 - Gly Ala Cys Thr Val Gly Gly Pro Thr Leu Val Ile Thr Glu Tyr Cys 660 665 670
 - Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg Asp Ser Phe 675 680 685
 - Ile Phe Ser Lys Gln Glu Glu Gln Ala Glu Ala Ala Leu Tyr Lys Asn 690 700
 - Leu Leu His Ser Thr Glu Pro Ser Cys Asp Ser Ser Asn Glu Tyr Met 705 710 715 720
 - Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Thr Asp Lys 725 730 735
 - Arg Arg Ser Ala Arg Ile Asp Ser Tyr Ile Glu Arg Asp Val Thr Pro $740 \hspace{1cm} 745 \hspace{1cm} 750 \hspace{1cm} 750 \hspace{1cm}$
 - Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Asp Asp Leu Leu 755 760 765
 - Ser Phe Ser Tyr Gln Val Ala Lys Ala Met Ala Phe Leu Ala Ser Lys 770 780
 - Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Thr His 785 790 795 800
 - Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Arg 805 810 815

Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Ser Cys Val Tyr Thr Phe Glu Ser 840 Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser Leu Gly 850 Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr Lys Met 870 875 Ile Lys Glu Gly Phe Arg Met Val Ser Pro Glu His Ala Pro Ala Glu 885 Met Tyr Asp Val Met Lys Thr Cys Trp Asp Ala Asp Pro Leu Lys Arg 905 Pro Thr Phe Lys Gln Val Val Gln Leu Ile Glu Lys Gln Ile Ser Asp 920 Ser Thr Lys His Ile Tyr Ser Asn Leu Ala Asn Cys Asn Pro Asn Pro 935 Glu Asn Pro Val Val Wal Asp His Ser Val Arg Val Asn Ser Val Gly 955 Ser Ser Ala Ser Ser Thr Gln Pro Leu Leu Val His Glu Asp Ala <210> 5 <211> 3816 <212> DNA <213> Rattus norvegicus <220> <221> CDS <222> (45)..(2981) gctgtagcag agagaggagc tcagagtcta gcgcagccac cgcg atg aga ggc gct 56 Met Arg Gly Ala ege gge gee tgg gat etg ete tge gte etg ttg gte etg ete egt gge 104 Arg Gly Ala Trp Asp Leu Leu Cys Val Leu Leu Val Leu Leu Arg Gly cag aca ggg act tet cag cea tet geg agt cea ggg gag eeg tet eea 152 Gln Thr Gly Thr Ser Gln Pro Ser Ala Ser Pro Gly Glu Pro Ser Pro 25

30

cca Pro	tcc Ser	atc Ile	cag Gln 40	ccg	gcc Ala	cag Gln	tca Ser	gag Glu 45	tta Leu	ata Ile	gtt Val	gaa Glu	gcc Ala 50	ggg Gly	gac Asp		200
acc Thr	atc	agg Arg 55	ctg Leu	acg Thr	tgc Cys	act Thr	gac Asp 60	ccc Pro	gcc Ala	ttt Phe	gtc Val	aaa Lys 65	tgg Trp	act Thr	ttc Phe		248
gag Glu	atc Ile 70	ctc Leu	gat Asp	gta Val	agg Arg	att Ile 75	gag Glu	aat Asn	aag Lys	cag Gln	agc Ser 80	gaa Glu	tgg Trp	att Ile	cga Arg	-	2 96
gaa Glu 85	aaa Lys	gcc Ala	gag Glu	gcc Ala	act Thr 90	cac His	acg Thr	ggc Gly	aaa Lys	tac Tyr 95	acg Thr	tgc Cys	gtc Val	agc Ser	ggc Gly 100		344
agc Ser	ggc	ctc Leu	agg Arg	agc Ser 105	tct Ser	att Ile	tac Tyr	gtg Val	ttc Phe 110	gtt Val	aga Arg	gat A sp	cct Pro	gcc Ala 115	gta Val		392
ctt Leu	ttc Phe	ctg Leu	gtt Val 120	ggc Gly	ctt Leu	ccc Pro	ttg Leu	ttt Phe 125	ggc	aaa Lys	gaa Glu	gac Asp	aac Asn 130	gac Asp	gca Ala		440
ctg Leu	gtc Val	cgc Arg 135	tgc Cys	ccc Pro	ctg Leu	aca Thr	gac Asp 140	cca Pro	cag Gln	gtg Val	tcc Ser	aat Asn 145	tac Tyr	tcc Ser	ctc Leu		488
att Ile	gag Glu 150	tgt Cys	gat Asp	ggg Gly	aaa Lys	tct Ser 155	ctc Leu	ccc Pro	acg Thr	gac Asp	ctg Leu 160	aag Lys	ttc Phe	gtc Val	ccc Pro		536 ·
aac Asn 165	ccc Pro	aag Lys	gct Ala	ggc Gl y	atc Ile 170	acc Thr	atc Ile	aaa Lys	aac Asn	gtg Val 175	aag Lys	cgc Arg	gcc Ala	tac Tyr	cac His 180		584
cgg Arg	ctg Leu	tgc Cys	atc Ile	cgg Arg 185	tgt Cys	gct Ala	gcc Ala	cag Gln	cgt Arg 190	gag Glu	ggc Gly	aaa Lys	tgg Trp	atg Met 195	cgg Arg		632 <u>^</u>
tct Ser	gac Asp	aaa Lys	ttc Phe 200	acc Thr	ctc Leu	aaa Lys	gtg Val	aga Arg 205	gca Ala	gcc Ala	ațc Ile	aaa Lys	gct Ala 210	atc Ile	cca Pro		680
gtg Val	gtg Val	tct Ser 215	gtg Val	ccc Pro	gaa Glu	aca Thr	agt Ser 220	cat His	ctc Leu	ctť Leu	aag Lys	gaa Glu 225	ggg Gly	A sp	aca Thr		728
ttt Phe	acg Thr 230	gtg Val	ata Ile	tgc Cys	acc Thr	ata Ile 235	aaa Lys	gac Asp	gtg Val	tct Ser	aca Thr 240	tcc Ser	gtg Val	gac Asp	tcc Ser		7 76
atg Met 245	tgg Trp	ata Ile	aag Lys	ttg Leu	aac Asn 250	cct Pro	cag Gln	cct Pro	cag Gln	agc Ser 255	aaa Lys	gcc Ala	cag Gln o	gta Val	aag Lys 260		824
ege Arg	aat Asn	agc Ser	tgg Trp	cat His 265	cag Gln	ggc Gly	gac Asp	ttc Phe	aat Asn 270	tac Tyr	gaa Glu	cgc Arg	cag Gln	gag Glu 275	acg Thr		87 2
ctg Leu	act Thr	atc Ile	agc Ser 280	tca Ser	gca Ala	aga Arg	gtt Val	aac Asn 285	gat Asp	tcc Ser	gga Gly	gtg Val	ttc Phe 290	atg Met	tgt Cys		920

tat Tyr	gcc Ala	aat Asn 295	aat Asn	act Thr	ttt Phe	gga Gly	tca Ser 300	gca Ala	aat Asn	gtc Val	aca Thr	aca Thr 305	acc Thr	ttg Leu	aaa Lys	968
gta Val	gta Val 310	gaa Glu	aag Lys	gga Gly	ttc Phe	atc Ile 315	aac Asn	atc Ile	ttc Phe	cct Pro	gtg Val 320	aag Lys	aac Asn	act Thr	acg Thr	1016
gta Val 325	ttt Phe	gta Val	act Thr	gat Asp	999 330	gaa Glu	aat Asn	gta Val	gac Asp	ttg Leu 335	gtt Val	gtt Val	gag Glu	ttc Phe	gag Glu 340	 1064
gcc Ala	tac Tyr	cct Pro	aaa Lys	cct Pro 345	gaa Glu	cac His	cag Gln	cag Gln	tgg Trp 350	atc Ile	tac Tyr	atg Met	aac Asn	agg Arg 355	acg Thr	1112
cct Pro	act Thr	aac Asn	aga Arg 360	ggg Gly	gag Glu	gat Asp	tat Tyr	gtc Val 365	aaa Lys	tcc Ser	gac Asp	aac Asn	caa Gln 370	agc Ser	aac Asn	1160
atc Ile	aga Arg	tat Tyr 375	gtg Val	aac Asn	gaa Glu	ctt Leu	cgc Arg 380	ctg Leu	acc Thr	aga Arg	ttg Leu	aaa Lys 385	ggc Gl y	aca Thr	gaa Glu	1208
gga Gly	ggc Gly 390	act Thr	tac Tyr	acc Thr	ttt Phe	ctg Leu 395	gtg Val	tcc Ser	aac Asn	tct Ser	gat Asp 400	gtc Val	agt Ser	gct Ala	tcc Ser	1256
gtg Val 405	aca Thr	ttt Phe	gat Asp	gtt Val	tat Tyr 410	gtg Val	aac Asn	aca Thr	aaa Lys	cca Pro 415	gaa Glu	atc Ile	ctg Leu	aca Thr	tat Tyr 420	1304 -
gac Asp	agg Arg	ctc Leu	atg Met	aat Asn 425	ggc ggc	agg Arg	ctc Leu	cag Gln	tgt Cys 430	gtg Val	gcg Ala	gcg Ala	gga Gly	t.tc Phe 435	ccg: Pro	1352
gag Glu	ccc Pro	aca Thr	ata Ile 440	gat Asp	tgg Trp	tat Tyr	ttt Phe	tgt Cys 445	aca Thr	gly ggg	gca Ala	gag Glu	caa Gln 450	agg Arg	tgt Cys	1400*
acc Thr	gtt Val	cct Pro 455	gtc Val	ccg Pro	cca Pro	gta Val	gac Asp 460	gta Val	cag Gln	atc Ile	cag Gln	aat Asn 465	gcg Ala	tct Ser	gtg Val	1448
tca Ser	cca Pro 470	ttt Phe	gga Gly	aaa Lys	ctg Leu	gtg Val 475	gtt Val	cag Gln	agt Ser	tcc Ser	ata Ile 480	gac Asp	tcc Ser	agc Ser	gtc Val	1496
ttc Phe 485	cgg Arg	cac His	aac Asn	ggc Gly	acg Thr 490	gtg Val	gag Glu	tgt Cys	aag Lys	gcc Ala 495	tcc Ser	aac Asn	gct Ala	gtg Val	ggc Gly 500	1544
aag Lys	agc Ser	tct Ser	gcc Ala	ttc Phe 505	ttt Phe	aac Asn	ttt Phe	gca Ala	ttt Phe 510	aaa Lys	ggt Gly	aac Asn	agc Ser	aaa Lys 515	gag Glu	1592
caa Gln	atc Ile	cag Gln	ccc Pro 520	cac His	acc Thr	ctg Leu	ttc Phe	acg Thr 525	ccg Pro	ctg Leu	ctc Leu	att Ile	ggc Gl y 530	ttc Phe	gtg Val	1640
gtc Val	aca Thr	gcc Ala 535	ggc Gly	ttg Leu	atg Met	Gly	atc Ile 540	att Ile	gtg Val	atg Met	gtt Val	ctt Leu 545	gcc Ala	tac Tyr	aaa Lys	1688

٠.	tat Tyr	tt Le 55	w	ag a ln I	aa ys :	ccc Pro	ate Me	g ta t Ty 55	r GI	a gt u Va	a c	aa In	tgg	g aa D Ly 56	's Va	t g	tc al	gag Glu	gag Glu		. 1736
	ata [le 565	aa Asi	t gg n Gl	gga lyA	ac a	aat Asn	tai Ty: 570	c va.	t ta l Ty	c at r Il	a g e A	ac sp	cca Pro 575	Th	g ca r Gl	ıg c n L	tt eu	cct Pro	tat Tyr 580		1784
į	gac Asp	Cad	c aa s Ly	a t 's T	LP (gag Slu 585	ttt Phe	e Pro	c ag o Ar	a aa g As	n A	99 rg 90	ctg Leu	g ag i Se	t tt r Ph	t g e G	ga ly	aag Lys 595	acc Thr		1832
t I	tg eu	gga Gly	a go 7 Al	u 0.	gt g ly A	jcc lla	ttt Phe	G17	g aag Y Lys	g gt s Va 60	T A	tt al	gag Glu	gc	c ac a Th	t go r Al 61	la	tat Tyr	ggc Gly		1880
. t	ta eu	att Ile	aa Ly 61		er A	at	gcc Ala	gcc	ate Mei 620	L In	g g r V	tt al	gcc Ala	gtg Val	g aa l Ly 62	s Me	g t	ctc Leu	aaa Lys		1928
P		agt Ser 630		c ca a Hi	t t s L	ta eu	acg Thr	gaa Glu 635	LAL	g gag g Gl	J A	cc la	cta Leu	ato Met 640	: Se:	a ga r Gl	a d u I	ctg Leu	aag Lys		1976
•	tc al 45	ctg Leu	ag Se:	c ta r Ty	r L	eu	ggt Gly 650	aat Asn	cac His	ato Met	g aa : As	in .	atc Ile 655	gto Val	aad Ası	ct Le	c c u I	ett Seu	gga Gly 660		2024
g A	cg la	tgt Cys	Th	c gt c Va	ı G.	ga ly 65	gly 999	ccc Pro	acc Thr	cto Lev	g gt va 67	1 :	att Ile	aca Thr	gaa Glu	ta Ty	rc	gt ys 75	tgc Cys		2072
t: Ty	at g	ggt Gly	gat Asp	ct Le 68	u LK	tg a	aat Asn	ttc Phe	ttg Leu	aga Arg 685	Ar	a a	aag Lys	cgt Arg	gac Asp	tc Se: 69	r P	tt he	att Ile		2120
t t Pł	c t	tca Ser	aag Lys 695		a ga n Gl	aa g lu (gaa Slu	cag Gln	gca Ala 700	gac Asp	gc Al	c c	gca Ala	ctt Leu	tat Tyr 705	Lya	ga s A	ac sn	ctt Leu	:	2168
ct Le		cat His 710	tca Ser	aa; Ly:	g ga s Gl	ig t	ct Ser	tcc Ser 715	tgt Cys	gac Asp	ag Se:	c t	er.	aac Asn 720	gag Glu	tac Tyr	a M	tg (gac Asp	:	2216
at Me 72		ag ys	cct Pro	Gly	gt Va	1 3	cc er 30	tac Tyr	gtc Val	gta Val	Pro). T	hr :	Lys	aca Thr	gac Asp	aa Ly	ys 1	agg Arg 740	2	2264
ag Ar	a t g S	cc	gca Ala	aga Arg	at []11 [74	e A	ac sp	tcg Ser	tat Tyr	ata Ile	gaa Glu 750	1 A	ga g rg 1	gac Asp	gtg Val	act Thr	75	co I	gcc 11a	2	2312
at Il	са е М	tg et	gaa Glu	gat Asp 760	[פת	c g p G	ag lu :	ctg Leu	gct Ala	ctg Leu 765	gad	C C	tg g eu (gaa 31u	gat Asp	ttg Leu 770	Ct Le	ga eu S	igc Ser	2	360
Ph	t te ≘ Se	-	tac Fyr 775	cag Gln	gte Va	g g	cc a	гÀв	ggc Gly 780	atg Met	gcg	r ti	tc c he I	eu	gcc Ala 785	tcc Ser	a <i>a</i> Ly	ig a rs A	ac sn	2	408 :
tg:		tt d le 1 90	cac His	aga Arg	gat Asp	t ti	eu A	gca Ma 195	gcc Ala	agg Arg	aat Asn	at I)	le L	etc eu :	ctc Leu	act Thr	ca Hi	с g в G	gg ly	2	456

cgg atc aca aag att tgc gat ttc ggc cta gcc aga gac atc agg aat Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Arg Asn 805 810 815 820	2504
gat tcg aat tac gtg gta aaa gga aat gca cgg ctg ccc gtg aag tgg Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro Val Lys Trp 825 830 835	2552
atg gca ccg gag agc att ttc aac tgc gtg tac aca ttt gaa agt gac Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr Phe Glu Ser Asp 840 845 . 850	2600
gtc tgg tcc tat ggg att ttc ctc tgg gag cta ttc tct cta gga agc Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser Leu Gly Ser 855 860 865	2648
age ccc tac cca ggg atg ccg gtc gat tcc aag ttt tac aag atg atc Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr Lys Met Ile 870 875 880	2696
aag gaa ggt ttc ega atg ctc agc cct gag cac geg cct gcc gca atg Lys Glu Gly Phe Arg Met Leu Ser Pro Glu His Ala Pro Ala Ala Met 885 890 895 900	2744
tat gaa gtt atg aag act tgc tgg gat gct gat ccc ctg aaa agg cca Tyr Glu Val Met Lys Thr Cys Trp Asp Ala Asp Pro Leu Lys Arg Pro 905 910 915	2792
aca ttc aag cag gtt gtt cag ctc att gag aag cag atc tca gac agc Thr Phe Lys Gln Val Val Gln Leu Ile Glu Lys Gln Ile Ser Asp Ser 920 925 930	2840
agc aaa cat att tac tcc aac tta gca aac tgt aac ccc aac cca gag Ser Lys His Ile Tyr Ser Asn Leu Ala Asn Cys Asn Pro Asn Pro Glu 935 940 945	2888.
aac ccc gtg gtg gtg gac cat tct gtg agg gtc aat tcc gtc ggc agc Asn Pro Val Val Asp His Ser Val Arg Val Asn Ser Val Gly Ser 950 955 960	2936 [°] .
agc acc tct tcc aca cag cct ctc ctc gtg cat gag gac gcc tga Ser Thr Ser Ser Thr Gln Pro Leu Leu Val His Glu Asp Ala 965 970 975	2981
gtagaaacgg agcccgatgg gcattgctgt ggtctccaac cccattctcc tggcttctat	3041
gatggttatt ttgttttcct ttgacttgca tcctactcca gggtagcggg atccccgccc	3101
cacccccaac cccactgtga ttctgccttt tatgagcaca ctttagtggc tgatggcctt	3161
tccttttcgc catcagccac catcccacca agaaggtccg aacggtatgt atatattttc	3221
ccattagcaa agtagcccct actgtaaacg gaaggcctca tgctttagag gaggaagggt	3281
agggtgcaac ggggatgcct ggagttcttc acagtgctcc tccgagtgtg tttgaaaagt	3341
atggccagta gttcatttga agagtttaga agtagtcccg ttttggccca gagagccttc	3401
cataatgacg ggcagatgta tgtagcaaga ctagaaagga aacccaagcc ctgtgtgtgg	3461
aaagtagacc attattagaa cagaggacac atgagaacat ctaggcctaa gaagtctggt	3521
catgctgaga acgagaccta ggctgagacg gcgcaagccc tggaagcgtg gacatagatg	3581

ctctgttctg gggctgcgcg ggcttttgcg caagcttttg tacaactgac ctggttttta 3641
aatagtctgc tgttggggag tagaattgga gacaaggcct cctccctagc cagcgtttgt 3701
atatactcac tgtacgttgt atgcgttcat actttggagc gggggatccc cccacaagct 3761
ttagtttctg tgtacaaccc tgggattagg tctgctgtt gtaagaatag attta 3816

<210> 6

<211> 978

<212> PRT

<213> Rattus norvegicus

<400> 6

Met Arg Gly Ala Arg Gly Ala Trp Asp Leu Leu Cys Val Leu Leu Val 1 5 10 15

Leu Leu Arg Gly Gln Thr Gly Thr Ser Gln Pro Ser Ala Ser Pro Gly 20 25 30

Glu Pro Ser Pro Pro Ser Ile Gln Pro Ala Gln Ser Glu Leu Ile Val 35 40 45

Glu Ala Gly Asp Thr Ile Arg Leu Thr Cys Thr Asp Pro Ala Phe Val 50 55 60

Lys Trp Thr Phe Glu Ile Leu Asp Val Arg Ile Glu Asn Lys Gln Ser 65 70 75 80

Glu Trp Ile Arg Glu Lys Ala Glu Ala Thr His Thr Gly Lys Tyr Thr 85 90 95

Cys Val Ser Gly Ser Gly Leu Arg Ser Ser Ile Tyr Val Phe Val Arg

Asp Pro Ala Val Leu Phe Leu Val Gly Leu Pro Leu Phe Gly Lys Glu

Asp Asn Asp Ala Leu Val Arg Cys Pro Leu Thr Asp Pro Gln Val Ser

Asn Tyr Ser Leu Ile Glu Cys Asp Gly Lys Ser Leu Pro Thr Asp Leu 145 150 155 160

Lys Phe Val Pro Asn Pro Lys Ala Gly Ile Thr Ile Lys Asn Val Lys 165 170 175

Arg Ala Tyr His Arg Leu Cys Ile Arg Cys Ala Ala Gln Arg Glu Gly 180 185 190

Lys Trp Met Arg Ser Asp Lys Phe Thr Leu Lys Val Arg Ala Ala Ile
195 200 205

- Lys Ala Ile Pro Val Val Ser Val Pro Glu Thr Ser His Leu Leu Lys 210 215 220
- Glu Gly Asp Thr Phe Thr Val Ile Cys Thr Ile Lys Asp Val Ser Thr 225 230 235 240
- Ser Val Asp Ser Met Trp Ile Lys Leu Asn Pro Gln Pro Gln Ser Lys 245 250 255
- Ala Gln Val Lys Arg Asn Ser Trp His Gln Gly Asp Phe Asn Tyr Glu 260 265 270
- Arg Gln Glu Thr Leu Thr Ile Ser Ser Ala Arg Val Asn Asp Ser Gly 275 280 285
- Val Phe Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val Thr 290 295 300
- Thr Thr Leu Lys Val Val Glu Lys Gly Phe Ile Asn Ile Phe Pro Val 305 310 315 320
- Lys Asn Thr Thr Val Phe Val Thr Asp Gly Glu Asn Val Asp Leu Val
 325 330 335
- Val Glu Phe Glu Ala Tyr Pro Lys Pro Glu His Gln Gln Trp Ile Tyr 340 345 350
- Met Asn Arg Thr Pro Thr Asn Arg Gly Glu Asp Tyr Val Lys Ser Asp 355 360 365
- Asn Gln Ser Asn Ile Arg Tyr Val Asn Glu Leu Arg Leu Thr Arg Leu 370 375 . 380
- Lys Gly Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser Asp 390 395 400
- Val Ser Ala Ser Val Thr Phe Asp Val Tyr Val Asn Thr Lys Pro Glu 405 410 415
- Ile Leu Thr Tyr Asp Arg Leu Met Asn Gly Arg Leu Gln Cys Val Ala
 420 425 430
- Ala Gly Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Thr Gly Ala
 435 440 445

Glu Gln Arg Cys Thr Val Pro Val Pro Pro Val Asp Val Gln Ile Gln 450 455 460 ·

Asn Ala Ser Val Ser Pro Phe Gly Lys Leu Val Val Gln Ser Ser Ile 465 470 475 480

Asp Ser Ser Val Phe Arg His Asn Gly Thr Val Glu Cys Lys Ala Ser 485 490 495

Asn Ala Val Gly Lys Ser Ser Ala Phe Phe Asn Phe Ala Phe Lys Gly
500 505 510

Asn Ser Lys Glu Gln Ile Gln Pro His Thr Leu Phe Thr Pro Leu Leu 515 520 525

Ile Gly Phe Val Val Thr Ala Gly Leu Met Gly Ile Ile Val Met Val
530 535 540

Leu Ala Tyr Lys Tyr Leu Gln Lys Pro Met Tyr Glu Val Gln Trp Lys 545 550 555 560

Val Val Glu Glu Ile Asn Gly Asn Asn Tyr Val Tyr Ile Asp Pro Thr 565 575

Gln Leu Pro Tyr Asp His Lys Trp Glu Phe Pro Arg Asn Arg Leu Ser 580 585 590

Phe Gly Lys Thr Leu Gly Ala Gly Ala Phe Gly Lys Val Val Glu Ala
595 600 605

Thr Ala Tyr Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val 610 615 620

Lys Met Leu Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met 625 630 635 640

Ser Glu Leu Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val 645 650 655

Asn Leu Leu Gly Ala Cys Thr Val Gly Gly Pro Thr Leu Val Ile Thr 660 665 670

Glu Tyr Cys Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg 675 680 685

Asp Ser Phe Ile Phe Ser Lys Gln Glu Glu Gln Ala Asp Ala Ala Leu 690 695 700

- Tyr Lys Asn Leu Leu His Ser Lys Glu Ser Ser Cys Asp Ser Ser Asn 705 710 715 720
- Glu Tyr Met Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys
 725 730 735
- Thr Asp Lys Arg Arg Ser Ala Arg Ile Asp Ser Tyr Ile Glu Arg Asp
 740 745 750
- Val Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Glu
 755 760 765
- Asp Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Gly Met Ala Phe Leu 770 780
- Ala Ser Lys Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu 785 790 795 800
- Leu Thr His Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg 805 810 . 815
- Asp Ile Arg Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu 820 825 830
- Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr 835 840 845
- Phe Glu Ser Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe 850 855 860
- Ser Leu Gly Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe 865 870 875 880
- Tyr Lys Met Ile Lys Glu Gly Phe Arg Met Leu Ser Pro Glu His Ala 885 890 895
- Pro Ala Ala Met Tyr Glu Val Met Lys Thr Cys Trp Asp Ala Asp Pro 900 905 910
- Leu Lys Arg Pro Thr Phe Lys Gln Val Val Gln Leu Ile Glu Lys Gln 915 920 925
- Ile Ser Asp Ser Ser Lys His Ile Tyr Ser Asn Leu Ala Asn Cys Asn 930 935 940
- Pro Asn Pro Glu Asn Pro Val Val Val Asp His Ser Val Arg Val Asn 945 950 955 960

Ser Val Gly Ser Ser Thr Ser Ser Thr Gln Pro Leu Leu Val His Glu 965 970 975

Asp Ala